WHAT IS CLAIMED IS:

1. A pharmaceutical composition comprising a pharmaceutical carrier and at least one compound in isolated or purified form selected from the group consisting of cobaltocene-octomet and stigmastan-3,5,-diene.

2. The pharmaceutical composition of claim 1, wherein the compound is cobaltocene-octomet.

3. The pharmaceutical composition of claim 1, wherein the compound is stigmastan-3,5,-diene.

4. The pharmaceutical composition of claim 1, comprising cobaltocene-octomet, stigmastan-3,5,-diene, and friedelin.

5. The pharmaceutical composition of claim 1, further comprising at least one compound selected from the group consisting of α-caryophylene, β-caryophylene, caryophylene oxide, friedelin, cyclododecane, acetic acid, and a terpene.

6. The pharmaceutical composition of claim 2, further comprising a terpene or acetic acid.

7. The pharmaceutical composition of claim 6, wherein said terpene is β-myrceane.

8. The pharmaceutical composition of claim 6, further comprising hexadecanoic acid.

9. A pharmaceutical composition comprising a pharmaceutical carrier and at least one compound selected from the group consisting of galoxolide and benzyl salicylate.

10. The pharmaceutical composition of claim 9, comprising galoxolide and benzyl salicylate.

11. The pharmaceutical composition of claim 9, further comprising at least one compound selected from the group consisting of 3-cyclohexane-1-methanol, camphene, 1,4-cycloprop-azulene, and phytol.

12. The pharmaceutical composition of claim 9, wherein the compound is galoxolide.

13. The pharmaceutical composition of claim 9, wherein the compound is benzyl salicylate.

14. The pharmaceutical composition of claim 9, wherein the compound is α-pinene.

15. A pharmaceutical composition comprising a pharmaceutical carrier and at least one compound selected from the group consisting of galoxolide, benzyl salicylate, eucalyptol and α-pinene, wherein the composition has antimycobacterial activity.

16. A method of preparing a composition having antimicrobial activity comprising extracting a plant material in an organic solvent,

contacting the extracted material with a chromatographic separation system, and

eluting the chromatographic separation system with a mobile polar phase to obtain a composition,

wherein the plant material is from *Mammea Americana* or *Callistemon citrinus*, and wherein the composition has antimicrobial activity.

17. The method of claim 16, wherein said plant is *Mammea Americana mamey Amarillo*.

18. A method of preparing a composition having antimicrobial activity comprising extracting a plant material in an organic solvent,

contacting the extracted material with a chromatographic separation system, and

eluting the chromatographic separation system with a mobile polar phase to obtain a composition,

wherein the plant material is from *Marchantia Polymorpha* and wherein the composition comprises at least one compound selected from among α-caryophylene, β-caryophylene, and caryophylene oxide.

19. The method of claim 16, wherein said plant is *Callistemon citrinus skeels*.

20. The method of claim 17, wherein said composition comprises at least one compound selected from the group consisting of cobaltocene-octomet, or stigmastan-3,5,-diene.

21. The method of claim 18, wherein said composition comprises α-caryophylene, β-caryophylene, and caryophylene oxide.

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22. The method of claim 19 wherein said composition comprises at least one compound selected from the group consisting of galoxolide, benzyl salicylate, and α-pinene.

23. The method of claims 16 or 18, wherein the organic solvent is methylene chloride.

24. The method of claim 16, wherein the antimicrobial activity is against a mycobacterium.

25. The method of claim 24, wherein the mycobacterium is *M. avium, M. bovis, M. intracellulare, M. kansaii, M. leprae, M. marinum, M. phlei, M. scrofulaceum, M. smegmatis, M. fortuitum, M. tuberculosis,* or *M. ulcerans.*

26. A method of inhibiting the growth of a mycobacterium, comprising administering a composition comprising a carrier and at least one compound selected from among cobaltocene-octomet, stigmastan, 3,5-diene, galoxolide, benzyl salicylate, eucalyptol, and α-pinene.

27. The method of claim 26, wherein said mycobacterium is *M. avium, M. bovis, M. intracellulare, M. kansaii, M. leprae, M. marinum, M. phlei, M. scrofulaceum, M. smegmatis, M. fortuitum, M. tuberculosis,* or *M. ulcerans.*

28. The method of claim 26, wherein said mycobacterium is in a mammal and said mammal is a human or a bovine.

29. The method of claim 28, wherein said composition is administered orally.

30. The pharmaceutical composition of claim 15, wherein the compound is eucalyptol.

31. The pharmaceutical composition of claim 15, wherein the compound is α-pinene.